UDC 338.43:504.06

Shubravska O.,
Doctor of Economic Sciences, Professor,
Head of the Department of Forms and Methods
of Management in the Agri-Food Complex State Organization
"Institute for Economics and Forecasting of NAS of Ukraine"

CLIMATE CHANGE ADAPTATION IN AGRICULTURE: BEST PRACTICES

The main goal of implementing climate-adapted practices in agriculture is to adapt it to climate change. Such practices focus on reducing vulnerability to the impact of extreme climatic conditions and thereby contributing to the resilience of agriculture to climate change. In this context, measures should be taken to prevent soil erosion and retain its moisture (e.g., mulching, minimal tillage), to conserve water resources (precision and drip irrigation, rainwater use), as well as to grow crops that are resistant to extreme temperatures and precipitation. All of this will help to strengthen the resilience of agricultural production to the adverse effects of climate change and ensure the stability of harvests.

Improved soil quality is achieved by abandoning deep ploughing and switching to minimal or no tillage, which prevents soil erosion and promotes carbon sequestration, while reducing the impact of agriculture on climate change. This also reduces the cost of tillage and maintenance of agricultural machinery. Cover crops are also widely used to protect soils from erosion, which helps to retain water in the soil and fix nitrogen there. Erosion can also be prevented by creating an environmentally friendly drainage system that helps to avoid chemical leaks and excess water and thus save resources.

Effective counteraction to climate change also involves analysing field conditions based on satellite images, using meteorological data and early warning systems to change the time of planting or cultivation to avoid extreme weather conditions during critical phases of plant growth.

Given the increasing scarcity of water resources in agricultural production in Ukraine amid rising average temperatures and the likelihood of droughts, it is important to introduce water-saving irrigation systems, including precision and drip irrigation, which optimise water use depending on the temperature and soil moisture. Water resources can also be saved by collecting and storing rainwater, treating it and using it in cycles.

To ensure that crops can adapt to climate change, regionally adapted crop varieties that are resistant to extreme climatic conditions should be identified and used.

At the same time, the use of disease- and pest-resistant crops, while reducing the need for pesticides, in turn increases the climate resilience of agricultural production.

Quite closely related to climate-adapted practices are ecological farming practices, which are aimed primarily at minimising the negative impact of agricultural production on ecosystems, in particular by reducing the use of chemicals. Such practices effectively complement each other in the process of ensuring the overall sustainability of agricultural production.

In the EU, much attention is paid to the implementation of these practices. Practices that already exist in EU standards are organic farming and integrated pest management schemes. The use of other practices is subject to mandatory conditions, which are the basis for budget payments to farmers. These conditions are set out in EU Regulation 2021/2115 in good agricultural and environmental conditions (GAEC) aimed at achieving the EU's environmental and climate goals [1]. Financial support for the implementation of such measures is provided by the European Agricultural Fund for Rural Development (EAFRD) under the EU CAP. In particular, in 2014-2022, European farmers received almost €12 billion from this fund to switch to organic farming or maintain this practice [2]. In addition, during this period, about EUR 61 million was allocated through producer organisations for the development of organic production in the fruit and vegetable sector, almost EUR 45 million was provided for research and innovation in organic farming in 2014-2020, and EUR 140 million was allocated for the promotion of organic products on the market in 2016-2023. In 2023-2027, the strategic plans of the EU member states envisage allocating about EUR 15 billion to support organic farming.

It is also known that 40% of the CAP budget under the EU's 2021-2027 multi-annual financial programme (amounting to more than €291 billion) should be related to climate and sustainable resource management [3].

Since any environmental and climate initiatives are associated with significant additional costs for agricultural producers, the recoverability of which in most cases is at least poorly predictable and can usually be determined only in the context of a hypothetical reduction in the negative effects of certain events, it is obvious that in order to promote the widespread adoption of climate-adapted and environmentally friendly agricultural practices, it is first of all necessary to provide financial support to farmers, as well as to raise their awareness of the benefits of such practices. In this regard, in order to expand the potential for environmental and climate adaptation of the agricultural sector and increase the sustainability of agricultural production in Ukraine, it is advisable to adjust the legislative and regulatory framework for agricultural development accordingly.

References:

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УДК 336.7

Якимчук Т. В.,
кандидат економічних наук,
доцент кафедри економіки праці та менеджменту,
Національний університет харчових технологій

ПІРИНГОВЕ КРЕДИТУВАННЯ НА КРАУФАНДИНГОВИХ ПЛАТФОРМАХ ЯК РІЗНОВИД ІНВЕСТИЦІЙ

Пірингове (peer-to-peer – P2P – рівний рівному) фінансування не так давно з'явилось в Україні. Його виникнення пов'язують з розвитком інформаційних технологій та появою нових способів комунікації в інтернеті. Пірингове кредитування як різновид пірингового фінансування використовується з метою залучення коштів для реалізації різних інвестиційних проєктів та досягнення цілей як позичальника, так і кредитора, без залучення традиційних фінансово-кредитних установ. При піринговому фінансуванні можуть бути задіяні фізичні, юридичні особи та індивідуальні підприємці. Проте, у більшості випадків мова йде все ж таки про взаємодію між фізичними особами задля залучення коштів для стартапів.

Фінансування проєктів за допомогою пірингового кредитування можливе завдяки платформам, які об'єднують кредиторів і позичальників і називаються краудфандинговими (англ. crowdfunding: crowd – натовп, funding – фінансування), тобто такими, що залучають натовп для фінансування або передбачають колективне фінансування бізнесу та різноманітних проєктів за рахунок залучення великої кількості невеликих внесків. Серед краудфандингових платформ, які дозволяють залучити достатньо коштів для фінансування проєктів, фахівці називають StartEngine, WeFunder і Republic [2].